Main Currents IN MODERN THOUGHT

March 17, 1941

Box 469, Port Chester, New York No. 5 Copr 1941 by F. Kunz, Editor and Publisher

$4 a year, actual cost. Many elect to contribute more. Volunteers to digest journals are invited. All are read retroactively as from October 1st, 1940 to ensure complete coverage. An index of contents will appear annually, summaries & basic bibliographies occasionally. Main currents, as we conceive them, are on page one of November, 1940, issue. For meaning of colors, please see January, 1941, issue.

THE SUPREME ISSUE OF THIS HOUR

In England, brave, tough England, they have far more effective political democracy than we have in the United States. We have a more universal social democracy. But neither Parliament nor the Congress has faced consciously economic democracy - the problem of adjusting the national and world economy to the supreme fresh physical issue of our time. The real question behind the war is: "What are we going to do about the revolution started by that radical, Henry Ford ?"

Mass production of pins and needles was going on last century. But with the assembly line for the flivver a new historical epoch was opened. This was between 1900 and 1915. Then, out of the needs of the last war, came the vast acceleration of this process in big machines and on large farms. After the war the settlement of the mass production challenge was postponed by trying to maintain foreign markets. We gave nations money from our public treasury so that they could buy from our manufacturers. It sounds insane, but it was done. This fifteen years (1916-1930) registered its end in 1929. Again we postponed the issue of the day, this time by forcing our government (1932-1936) to abandon all sensible solutions and to borrow money instead from those that have it so that the unemployed might be kept by doles, made work and public works from starving and rioting. Every forthright attempt to plan and organise for national security was defeated by that blind reaction that can read, but cannot read history. The public debt snowballed. Beggary became a permanent policy in the form of free food tickets. Concentrates of economic power continued to increase. Everywhere little shops, little factories, little farms withered in the blight of selfishness, ignorance and fear. Roosevelt the politician and humanitarian won an election, but Roosevelt the statesman and saviour of society was beaten.

Then came this war. And with it comes a still greater skill in mass production, extended to airplanes, tanks, ships. And there lies as before the potential of mechanized farm output, kept down by buying off the farmer from producing. The public debt swells monstrously. We who should own the credit function borrow again from those who have money, this time to protect ourselves from outer threat. We hire England as our mercenary, as she hired Hessians. First we proposed to strip her of all collateral she has here, then give her whatever else she needs. A sordid and stupid business. The British may never win outright. Anyone in his senses (and now even the newspaper services) can see the balance of power lies in India, in Russia ---it lies anywhere but in those exciting theaters of war where we turn our eyes daily in hope the better cause is winning.

It lies most of all here in the United States. For the democracies will finally win only if, and in the measure in which, they go democratic as to economics. When the German people fear war but do not fear the consequences of defeat, and when the people of the whole world know for sure that the mass production wealth of all nations is going to be used for human good, then this war is won---won by everyone. There is

no other way to win. For the foreign markets are gone. India is today the seventh in ranking of industrial countries, and China is getting wonderfully well on the road to self-sufficiency.

The hope in this country has until now been that public agencies can curb by regulation the excesses of private ownership. But this hope has not been well-founded even when the technological developments preliminary to mass production were proceeding---coal and steam power, railroad development, electricity, and so on. The struggle for control has always been a rear-guard action in which private profit groups retreat to new ground, grow more compact, more sure. The story of earlier recklessness comes out---the railways, oil, forestry and so on---but the truth of the moment eludes us. Into contemporary sources of profit the invested money is transferred, leaving the old headaches to the government. Government, goaded by threats of civil disorders, prosecutes monopolists, and the defendants plead nolle contendere. This means in simple English, "I decline to answer," and could be phrased much more impolitely and still be true. A fine is levied and paid---all meaningless to the fundamental forces of history. Is the fated hour of settlement to be put away forever by such postponement ? NRA was not a silly notion. It was a chance to set order in our own house. We passed that by. Today vast profits are being made out of the national peril. Never have the concentrates of ungoverned power been greater than at this hour when in the name of saving democracy democracy is denied.

What is the solution ? What is going to happen two or three years from now, when the war ends ? Do we mean to go on increasing the public debt, enlarging taxation, diminishing employment until we collapse ? Fascism and the Nazis have lived on war economy, fictitious forms of made work. Barter met, and bested, the gold standard, but the war intervened to end extra-European barter. When the war ends will these problems end ? Barter or gold are not choices which affect the fact of abundance. Even if every country went Fascist, and everyone worked under compulsion, and we all produced and traded like maniacs, still if the mass production excess does not result in universal reduction of hours with rising and expanded forms of security, no continuance of a world economy is possible. There is one alternative only for the lunatic-economists: scrap mass production, take road-making machines off roads, give workers shovels (spoons, Pravda once said, would be better); abolish spinning machines and give ladies spinning wheels in homes; go back to brooms, ice boxes, and milk deliveries in your own quart measure at the door.

Any child can understand the issue. It is not a matter of intelligence which will save us, but a matter of principles, of spirituality. What principles have we ? What are we willing personally to do, cost what it may ? What group of people in this country could effect not impossible reforms or induct the millenium, but work out a new adjustment between the convergent forces of history, the old habits and the new fact, mass production ? By this we mean, within the framework of the Constitution, especially the Bill of Rights ? We do not mean new legislation, even; certainly not immediate amendments. We kept since January 1st a close watch on the news, and have digested all the instances of the violation of the law of the land, the spcliation of American ideals of fairplay, the long sad list of violent deaths arising from economic pressure, the bailings-out of privileged investors or officers by legal trickery, and so on. We have in this record too the accounts of splendid acts of courage by judges, senators, bravery by the police, and the like. But nowhere do we see proposals for united action to solve the central problem. The isolationist Senators have no word for us on this. We could forgive them their short vision and poor judgment as to matters abroad, if they had the right insight and courage in the home front. Though it is a matter of principle, we expect little help from the clergy, and as things go we know the schools and the teachers get only as far as the general movement to organize in self-defense will take them. Labor groups are only a superficial reaction to a deeper affliction, an earlier offense. By all means let teachers organise to protect their rights, but as they do so the forces of reaction will produce those circumstances which will prevent that teaching of contemporary history which might save us a generation hence.

There has until lately been no hope in the press. The Bill of Rights insures its freedom, but the newspaper has converted this into the right to invade privacy, exploit human misery and shape the news to its own purposes. It is a commercial institution itself, bound. The appearance of the evening daily, PM, in New York, is the first break. The whole social scene is eaten away by by-products of the profit-motive, security-fears, half-educated literacy, and so on. Patents, copyright, vested interests, absentee landlordism---a complex of selfish tentacles running out into the life of nearly every individual.

If, then, only a few people and no organisations exist to grapple with the octopus, are we helpless ? No, there are those able to move within the constriction. They are the rare individuals with wealth who see the breakdown of the whole old order and who long to collaborate with others for a new one to be worked out along some line peculiar to the American genius. There is the rare educator, writer, artist or other professional person free to go his way along such line, if it be laid down. It is going to take courage to act, and clearly defined principles for guidance. Such principles will call out to men and women everywhere. In trade journals we see editorial comment which shows the industrial world alive with the feeling that only principles will save us. We quote an instance from the trade organ of the Philadelphia Quarts Company (Dec. 1940). Printer's Ink, November, spoke in like strain: "The urge of the present time is for a willingness to pay the price. If people were universally willing to accept personal disadvantage to the end that life should be better for the other fellow, almost any system of government could be made to work. Our troubles spring not so much from technological causes or political maneuvers as from the deeper need for a will to live out in our time the implications of the Christian ethics."

What does this mean ? It means that a group of people would have to unite to make a sufficiently large pool of wealth to work out one instance of investment for social good which would be conspicuous and successful. A fresh example is needed. It is easy to suggest two or three such educational projects. The investor comes in for good, in both senses of the word good. He enters a corporation which is going to publish all details of its workings, and work in the closest harmony voluntarily with the appropriate government department. It will be corporation policy to pay high wages and seek low return. Principles! No remote control, holding companies, classes of securities, speculative trading in the ownership. The frank admission that this is a temporary compromise with a situation wherein a public function (credit control) is in private hands. No vast salaries, bailing out, but for all involved a sense of social responsibility and an interesting job. The enterprise would perhaps come to be a monopoly---but a monopoly working in the open as a quasi-public body, something like the telephone company, much nearer the form of some of the real publicly owned public utilities such as the one in Tacoma.

One such successful enterprise would be an encouragement to other businesses to reform. And as there is a sharp choice ahead between simple morals and social obligation and complete collapse; and as Britain after the war will show us the way if we don't find it ourselves; and as one meets everywhere people in high authority in established enterprises who long to see efforts made along lines not visible in the contemporary scene, one is convinced the moment has come to move in this new direction. We quote Charles E. Wilson, president of the General Electric Co. addressing the American Institute of Electrical Engineers, Philadelphia. His remarks came to us as we revise these pages. "---the private enterprise system is faced with two alternatives---either private decisions will be made and enforced by public-spirited and fully supported leaders in finance, industry, commerce, labor and agriculture, or public decisions will be made and enforced by the Government of the whole people for the whole people. Therefore it must be seen that, if no way can be found to make and enforce the first kind of decisions, there can be little justification for resistance to the second kind." Self-reformation, we believe, must precede efforts to develop (exploit) South America. Principles! Brotherhood! These alone must animate a new policy.

F. K.

TO ENGLAND'S ACCOUNT, Wallace Notestein. A Digest.

What the Englishman has brought to world civilization is described by Wallace Notestein in YALE REVIEW, December, 1940. English ideas and institutions, the common law, free speech, parliamentary government, these are some of the features, characteristically English. The gymkhana, polo, tennis, tea on the lawn. Mr. Notestein enumerates the qualities of the English gentleman, and of the business and trading classes - "the serfs became freemen, they became prosperous, they became literate and vocal, they became, many of them, part of an influential middle class." The English traders have often "shown themselves more public-spirited, more interested in the welfare of the nation than in their own special businesses." Likewise have the working classes had their part in creating a British civilization. "Upon their character the Prime Minister can rely at this moment. They will not sell out. They will not be bombed into submission. Their influence has gone beyond England, they are not only useful but indispensable." Mr. Notestein states that the English class system is breaking down and that its contribution transcends class. They believe that the man who plays games well and has the sporting spirit will acquit himself well in battle and will play up when things are going wrong. "It is humor that keeps the British going. Puritanism is the most English of English contributions to civilization. The Puritan in his daily walk with God aspired to make this a better world - not only to behave well himself but to do good to others. The Puritan sense of duty was bred into the bony structure of the English character." . . . . "Duty meant willingness to take up political and social reforms and to fight for them; it meant courage to stand by unpopular causes and even to die for them."... "On the side of politics the English contribution to civilization has been manifold" and the writer mentions four factors: the common law, parliament, free speech and the British Commonwealth of Nations. He notes that the parliamentary cabinet system has been working less happily in Britain within the last few decades."

"The granting of complete self-government to Canada, Australia, New Zealand, South Africa and Eire has been the most significant political contribution of Britain. The dominions and the mother country constitute the first League of Nations, and one that has succeeded. Britain has seemed slow in giving the jewel of its empire, India, that freedom which it has been so willing to bestow on the white dependencies. It is predictable that shortly India will gain dominion status and be a nation as much as Canada." Should Hitler dictate terms to Britain, India will be ruled with undreamed ruthlessness. The story of the Indian conquest is the story of the Man on the Ground who forgot instructions and annexed forbidden territories. "Whatever blunders the British made have been atoned for by their eventual willingness to bestow freedom." Insistence upon the individual has been a common English principle, "the gods who designed the pattern of English history contrived it so."

* * *

INDIA IS THE KEY Extracts

"Britain and the Dominions -- if they wish to preserve their unity as a political force -- need to proclaim a program of emancipation of the colonies as the basis of a world commonwealth of democracies."... "A free India could become as valuable an asset to England as a free America."... "As a matter of fact, India is so crucial in the whole imperialist structure that, once it was liberated, the rest of Britain's colonial problem would be simple to solve."... "The colonial empire means little to the British people as a whole." (From, "All Colonies Must Be Freed," in Asia, January, 1941)

* * *

"The 'problem' in the Orient is indissolubly connected with the 'problem' in the Occident and it is useless to try to seek a solution of one without the other."....
"We will not have any peace and order on the earth until the subject peoples become free.".... "..Britain and the democratic Dominions are not the same thing as Britain the colonial power. Here is the contradiction which may have to be resolved both in Europe and in Asia if England the democracy herself is to survive and develop."...
". . . .the United States could still recognize Japan's New Order, let it proceed without opposition. . . . . The effects on the world might be universal chaos followed by revolution.".... "In an organic world the most remote events affect every land." (Things That Could Happen, By Edgar Snow, Asia, January, 1941).

* * *

"The Indian Empire has become increasingly anachronistic in a modern world and is probably the main cause of the decadence of British political life in recent years. No one who has lived in India can have failed to be depressed by the immense time-lag between the archaic social life of this huge nation and the rest of the world, even in the Orient. It is an enormous millstone around the neck of oriental emancipation and the progress of the whole world.".... "Behind this war of empire there is a complex world movement toward social revolution, on both sides and in every land." (Britain's Weakness in India, Asia, January, 1941).

* * *

A SOCIALIST CIVILIZATION, by G. D. H. Cole. Extracts

"What are we to do, now that the impulses that drove on capitalism to ever-new material victories up to a little while ago have died out, and we are forced, willy-nilly, to set about the making of a new world? We have two working models before us, which we can imitate if we will -- the Communism of the Soviet Union and the German Nazism -- and each offers a powerful challenge to the institutions and the ideas amid which we have lived. In one sense, Nazism preserves capitalism, whereas Communism sweeps it ruthlessly away. But in another sense Nazism too saps the foundations of capitalism, and offers a solution of the economic and social problems radically different from the capitalist solutions as it has been offered to us in the past..... What can we fashion that will meet our need -- except a Socialist Society?.. Socialism, however, though it involves a generous approach to economic equality, is not wholly a bread and butter question. It is also, and ultimately, a question of the spirit of man. . . . . Individualism and laisser-faire quite change their practical meaning when the individual comes to mean in practice a great capitalist trust or a newspaper syndicate with unlimited capital at its back, ... There can be no peace for the soul of man, and no space for the individual to live his own life, till we have learnt by collective action to subordinate these monsters to our needs."

"I am . . . . a Democratic Socialist." and ". . . I fear that a Communist Revolution, by sweeping too much away, would enthrone in the minds of the new generation the iron spirit of the mass-producing machine, whereas a milder Socialist Revolution could bring to the control of the machine the liberal spirit that values difference, and reckons suffering at a high rate in the scale of things to be put down.....
. . . .Every invention, every advance in man's knowledge is <u>michin mallecho</u> unless it is collectively controlled in the service of the common people. Socialism is, in the last resort, simply the means to this control. . . . . The trouble is that . . . ordinary, decent people, who claim for the most part nothing better than to be let alone, cannot be let alone until the world has settled its fate anew. . . . . until they themselves realize that, for very peace and quietness, they must . . . . claim their right to be free, ... by facing manfully the task of bringing these monsters under collective, democratic, Socialist control." The Fortnightly, December, 1940, No. 888, New Series, pp.533-540. (The author is a well-known British exponent of Guild Socialism).

"The time has come to sing a different tune about our art. Positively it cannot be a wail. It must be triumphantly advancing, for the world now needs the artists' courage, his independence, his exuberance, his enlightenment, and his dedication. Perhaps the tune will be a new music unlike anything heard before, a ringing declaration of the artist's assurance, it will be a battle cry. He will ask for nothing, winning the world by bestowing upon it the ideals and gifts to which he alone holds the key." Excerpts from editorial, The Gentle Removal of Charity, by Forbes Watson, Magazine of Art, February, 1941.

* * *

"The ART TEACHING division of the New York City W.P.A. Art Project reports that during 1940 more than 26,000 class sessions were held with an aggregate attendance of 300,000 or 10,000 weekly. Instruction is given in 59 centers located in New York City's five boroughs and covers 23 phases of the fine and applied arts, taught by 150 teachers. Students run the gamut of the social and professional strata, and include prisoners on Riker's Island, seamen, and the blind, who are active in sculpture. Together they constitute the biggest art school of all time--an unusual school at which there is neither tuition nor compulsory attendance and where there are no race, creed or age restrictions. Because of the vastness of the program, the heterogeneous nature of the student body and the discrepancies in the ages and education of these students, progressive education methods are followed. These methods have the objective of fitting the course to the student rather than the student into an academic formula. Under this system students can enter classes at any time and if the exigencies of their life demands that they skip a few days or drop out for a while, they can come back without formality or apology." (The Art Digest, 2/1/41)

* * *

"The world is witnessing today the supposedly greatest nations in cultural development bending all their manhood and materials into building greater and better engines for mass destruction of all that other men have built. Now as never before we should use all our energies toward developing more creative minds for building a new world for tommorow's men, that they may have more creative minds and hands for making the beautiful rather than the destructive. This great art appreciation can only be established through actual doing, the actual handwork, rather than through more book learning that has impeded for years over art growth." Pedro J. Lemos, in Childhood Education, January, 1941, page 199.

* * *

"During 12 years of teaching young people in arts, I have not found one student who didn't possess a latent creative instinct that yearned for expression. I am convinced that every human being possesses a creative urge to make beautiful things, that this urge can be brought out and put to work with proper environment, and that suppression of it results in maladjustment of life. Furthermore, it is actually dangerous not to use your hands. Tests by neurologists . . . . show that mental ability increases as the ability to use the hands increases. Manual work demands clear thinking, the working of your own solution to problems." Boris Blai, Sculptor, and educator and director of fine arts at Temple University, in American Magazine, quoted by Childhood Education, January 1941., page 199.

"The Indian woman wears bracelets and anklets in such quantities that the slender shape of forearms and ankles is entirely obscured. It is not the rhythmic symmetry of the body which is regarded by the Indian as beautiful, but rather the combined effect of the figure and the rich draperies and ornaments with which it is covered.

This is an expression of the same spirit which created the fantastic structures of the temples, where the profusion of ornament obscures the static functions of the buildings." (A. Leix in the November, 1940, number of the Ciba Review, published in Basle). This raises the whole question of esthetic values. It illustrates the thesis that it is dangerous to look at Eastern art with presuppositions grown up on different soil.

K.F.L.

* * *

IMPRESSIONS OF A FAR EASTERN TRIP, Simon N. Whitney. A Digest

The Japanese are found to be among the most honest and best-natured peoples on earth by Simon N. Whitney in "Impressions of a Far Eastern Trip" in Yale Review published in December, 1940. The hospitality of his hosts was evidently sincere and the kindness and courtesy of the common man seemed to be genuine. "A traveller has to think of other historical and contemporary examples to understand how this people, so happy in its beautiful country, can have gone forth to spread devastation elsewhere," he says. Mr. Whitney thinks the people of Japan like and admire the American still, but not the army of Japan. "Our own country could well afford to liberalize its treatment of Japanese goods, as it buys $75,000,000 less in goods each year than it sells. By this solution no legitimate interests would suffer seriously and Japan would receive the economic security for which it has been fighting..... There is some danger that Japan, let alone, may complete the conquest of the Far East and face a later generation of Americans with a vast, self-contained empire. This possibility justifies such aid as we can afford to give the Chinese in their struggle to eliminate it now."

* * *

Sensationalism, is said to be disappearing from American life. No longer such tremendous emphasis on bigness and high figures, no longer talk about "flying machines" and "wireless"; instead, more advanced scientific thinking and understanding from a non-sensational standpoint. So Art Wildhagen, in "The Scene is Shifting", College Publicity Digest, Nov., 1940. (K.F.L.)

* * *

"A conference of Ministers held in Benares in February pleaded for the formation of a Christian school for the study of Hinduism. It is widely agreed that more intensive study of Hinduism is needed by the total Christian movement in India." The International Review of Missions, January 1941.

The light emitted when sugar crystals are fractured is found to be partly due to an electric discharge in the gaseous medium surrounding the crystals. The emission is increased in intensity by the addition of fluorescent oils or dyes. Similar emission is observed on subjecting crystals to sudden large changes in temperature. The experiments described also suggest that the emission also resembles phosphorescence, since pre-exposure to sources of short wave radiation increases the effect. Ice is found to be triboluminescent and phosphorescent at low temperatures. (F.G.Wick, Jour. Optical Soc.Am. 30,302,1940).

(The phenomena of flourescence and phosphorescence are considered identical, in that the energy is derived from a radiant electromagnetic source as is ordinary light, but commonly in a shorter wave-length. Upon striking materials adapted to serve as frequency-transformers the energy is absorbed and then re-emitted in wave-lengths different from those received. Most of the energy is absorbed as heat. Flouresscence stops immediately the exciting radiations are cut off, but phosphorescence continues for some time, dying away gradually. Streams of electrons or alpha particles can also act as exciters, also friction or fracture. Common flourescent substances are chlorophyl dissolved out of green leaves by alcohol (red flourescence), Quinine sulfate solution (blue), calcium tungstate (usual screen for X-ray work), impure barium, calcium or strontium sulfide (common luminous paint). At the New York World's Fair ghastly effects from flouresing human hair and teeth were on view. The principal work on these topics is R. W. Wood's Physical Optics. A.J.P. - E.W.F.K.)

* * *

Photoluminescence is reviewed and characteristic tests are described. The mechanism of long-lived phosphorescence is as follows. Electrons in phosphors are lifted to the conducting state by absorption of ultra violet light. Upon their return to the ground level a short-lived afterglow (flourescence) is emitted. Part of the electrons remain in metastable states and when excited back to the conducting state because of heat or infra-red absorption, their final return to the ground level causes them to emit the long-lived afterglow, phosphorescence. (J.H.Gisolf, Nederland Tijdschr. Naturkunde. 5,289;1938)

* * *

Gigantic star explosions, called supernovae, produce collapsed neutron stars far exceeding in density the "white dwarf" stars in which a cubic inch of matter might weigh millions of pounds. These stars cannot be seen because the force of gravity is so great that any light they might emit would not be able to get away. The effect of gravity on light is one of the predictions of Einstein's relativity theory which has been confirmed by observations on the sun. (Dr. Fritz Zwicky, Science Suppl. 93,10;Jan.3,1941)

* * *

A new force acting on minute particles of dust between the stars is postulated as a consequence of the well known effect, the pressure of light that makes a comet tail point away from the sun. Radiation pressure pushes on dust particles in space. When two particles are in line with the body from which light is coming, the first absorbs light that would tend to go to the other and hence approaches the second particle. The force of this attraction is 200 times as great as their gravitational pull on each other. (Science News Letter 39,31; 1941)

* * *

During the investigation by mass spectrographic methods of some old minerals of the tantalo-niobato group, a mass line 237 has been found on several different plates. This mass line does not belong to any so far known chemical element or isotope. It belongs to an element, which is a member of a so far unknown radioactive series, and may be either the parent element of such a new series, or originate from a uranium isotope which had already decayed at a time before the uranium minerals had been formed. (W. Wahl, Science, Suppl. 93,16-17; 1941)

* * *

In very large crystals there is no sign of growth curvature. From this fact arise properties useful in several physical science applications. Now, crystals do not traffic with time. Their method of enlargement is accretion, not growth. They obey no cycles or seasons. They are known to form upon space lattices, of which there are fourteen possible variants, all angular. The apparition of growth curves in crystal masses, such as ice crystals on windows, is due to new angles of direction taken by individual crystals within the lattices. Glide planes and other crystal space explorations are also of this order. Plants, on the other hand, are composed (to start with) of spheroidal units. Furthermore, in their growth they offer the phenomenon of curvature. The curve is referable to a norm which is logarithmic, and provides a constant, 1.6180..... If crystals explore space lattices, are we not compelled to regard the growth of plants as exploration of the properties of time, and the resultant curves as proof that time is curvilinear? Per contra, if in astrophysics and in micro-physics we perceive space-time to be spherical (Riemannian), and plant growth confirms us in supposing the time-sector to be that which provides the curvature, may we not conclude that the time-sector is as real and as causal for higher forms of life as space-lattices are real and governing for crystals? And there may very well be more than one time-sector or time-domain, and motion-time of physics not be the next immediate "dimension", but only a shadowy reduction of a realm set off from this workaday realm by a realm of growth-time (psyche) and another quite different realm for archetypal-time, geologic-time (soul). "Time is the image of eternity", a phrase attributed we believe to Diogenes Laertes, means then that motion-time is the shadowy representative of a still more fundamental time-realm (spiritual), vast enough to apply to the totality of the universe. (The two items which follow are put on record unchanged from Biol. Abs. as numbered and identified. Further record of growth-curves will be made occasionally).

16783. Naundorf, Gerhard. Untersuchungen uber den Phototropismus der Keimwurzel von Helianthus annuus. Planta 30 (4): 639-663. 1940. -- Seedling roots of H. A. show negative phototropic curvature of up to 40 degrees if exposed to unilateral lighting. If the root is divided into zones measuring 1/3 m. each. the first 2 zones are the most sensitive ones. Decapitated roots show no curvatures. Upon remounting the root tip the curvature returns. If the tip is substituted for by heteroauxin ager or auxin paste no curvature occurs after unilateral illumination. Illuminated roots grow faster than others kept in darkness. Isolated roots 2 mm. long manufacture growth substance. Blue light enhances the production more actively than any other color. Low conc. of heteroauxin (10 10 M) enhance root growth of Helianthus. After heteroauxin treatment positive phototropism may be induced. Growth increase or decrease depends on auxin presence in sub- or super-normal concs. -- B. R. Nebel

16784. Overbeck, J. van. Phototropism. Bot. Rev. 5 (12):655-681. 1909.--There are two kinds of phototropism; a turgor pressure movement (in leaf joints) and a growth (elongation) movement (in seedlings and in growing flower stalks). The latter type of phototropism is controlled by auxin, in fact the study of phototropism led to the discovery of auxin. This type of phototropism forms the main topic of the article. After briefly discussing and criticizing the most recent conceptions of the mechanism of elongation, the fundamentals of phototropism are discussed. The conclusion is that the phototropic curvature is due to 2 factors: (a) a lateral shifting of auxin, and (b) a unilateral destruction of auxin. Either one or both of these factors may be involved depending on the plant and the conditions. Thus the phototropic curvature of Avena coleoptiles with small amts. of light is exclusively due to factors (a); that of Helianthus at high light intensity is exclusively due to factor (b); and that of Raphanus hypocotyls is due to both factors (a) and (b). Other topics discussed are diaphototropism, physiological dwarfism, the pigments involved in phototropism, phototropism of roots and of sporangiophores. -- J. van Overbeek.

REST EPOCHS IN PLANTS

Thomas G. Phillips provides (in the News Edition, Am. Chem. Soc. 19, 24-7,1941), a review of the effects of vitamins, hormones and other substances on the growth of plants. In southern Georgia peach trees sometimes fail to begin growth promptly in the spring, because they have not been subjected to enough cold weather to break their dormancy. About 1000-1100 hours exposure to temperatures below 45° F is needed. The U.S. Dept. of Agriculture has found that spraying with solutions of dinitrophenol can take the place of 200-300 hours of low temperature in breaking the rest period of peach trees.

* * *

SPACE-TIME IS ALIVE And Matter is its Servant.

In Science News Letter (Feb. 1, 1941) Mr. Lawrence J. Lafleur, Brooklyn College, writes in a vein now increasingly common, to the effect that space-time is charged with a life-potential. Hence life is not a local phenomenon. But he goes further as the following summary shows. Mr. Lafleur makes the proper assumption that life comes only from life and never arises either by evolution or emergence from the inanimate, or by special creation. This philosophy avoids the difficulties of origin, and it is possible to assume either that life existed eternally in the past along with an eternal physical universe, or that both had an origin, possibly by devine creation, at some specific era of past time. The whole universe may thus be filled with seeds of life which settle now and then on planetary bodies and grow into life on those planets where conditions are favorable. Adaptability of life is such that, even under widely different conditions from those which prevail on earth it might be possible. In another world, a different quantitative distribution of chemicals might leave life possible even to organisms based on the carbon-oxygen-nitrogen-hydrogen compounds with which we are familiar. If nitrogen were rare instead of common and the other elements proportionally commoner, we might very well have organisms that obtain all other elements by a simple process of breathing or absorbing them from the environment, but which are especially adapted to the pursuit of nitrogen. Or, if oxygen were the rare element we might have organisms that breathe methane and nitrogen, and seek and eat silicates to obtain the oxygen content. Philosophical considerations make the possibility of extra terrestrial life quite likely. With this in addition to the slight observational evidence, such as the observations which indicate the presence of vegetation on Mars, it may be concluded, with a fair degree of assurance, that life in the universe is not confined to our planet.

* * *

CRYSTALS MAY BE ALIVE And Life Need Re-definition.

"While a diamond crystal always belongs to the system known as cubic, an individual specimen has its own recognizable characteristics. In 1938 Scotland Yard reported a method of 'finger-printing' a diamond. Microscopic photographs are taken of the internal structure of the stone, and since no two diamonds are, in this respect, exactly alike, any particular diamond may now be identified even if it has been recut." Rogers and Beard, 5000 Years of Gems and Jewelry, Stokes, New York, 1940, p.179. In future we shall treat (in our biology pages) those aspects of crystallography which show individuality or any other quasi-biological properties, since the wide notice given to the work of Dr. W. M. Stanley on the crystallised tobacco virus has brought many biologists to a point where they are beginning to consider self-formation, not only reproduction, as the proper definition of the life process.

F.K.

* * *

EVOLUTION FIGHTS BACK

Or, Who is a Pest to Whom?

When men spray their orchards or vegetable crops to kill off the pests, it results finally in the production of new races on which the spray has greatly diminished effects. We must now accept the origin of new pests, not only the survival of the toughest. This idea was rejected a quarter century ago but is generally accepted by entomologists now. The new race of insects that originates by surviving one kind of poison also shows high powers of resistance to other, chemically unrelated, poisons. New races have evolved not only in response to man's unintentional substitution of himself for the force of natural selection but also through the supply of new types of homes and food. The coddling moth, a major pest in apple orchards only, has since 1918 produced a new race that has become a scourge for walnut orchards. (based upon information gathered by the California Citrus Experiment Station, reported by Harry L. Smith, in Science News Letter, Jan. 25, 1941)

* * *

EVOLUTION BY FIRE

Fire has played a vital role in forest development it having been found that there were great forest fires in the forested areas in northern Wisconsin as early as 1465. Other fires occurred in 1640 and were followed by developments terminating in the present hardwood forests, now overmature and decadent. The role of fire in undisturbed nature is to clear away tracts and allow new growths to have a chance to evolve. (D. K. Maissurow, Science Suppl. 93,11, 1941)

* * *

ELECTRIC EEL

In the electric eel there is an electric impulse in the animal's electric organ which travels from tail to head at a speed of half a mile per second. These speeds are faster than any recorded nerve impulses. (W. A. Rosenblith, Science Suppl. 93,10, Jan.10, 1941)

DR. REISER'S HUMANISM A Review by B.L.Whorf

An important and highly significant book! It is a recognition by a scientific thinker and modern philosopher of the need for a new cosmic vista in science and philosophy, and a bold and logical attempt to formulate such an outlook. This outlook provides place in its cosmic scheme for such things as extra-sensory perception, for the union of high-grade feeling (that which in a low grade is called emotion) with intellection (union of heart with brain), for mystical and intuitive insight, for a non-static, creative universe and a super-physical that is not a supernatural - all of these reconciled and wedded to science in a way that does no violence to clear thinking. For in showing that super-material terrains exist and must be included in the scientific picture under new principles of reasoning, there is no letting down the bars to fantasy. On the contrary, a cool clear light, as of some strange higher sophistication, shines through many of these pages in a manner seldon encountered. This writer has vision! The book is most significant as a foretaste of things to come; I should not regard it as a finished system of thought, but as a catalyzer of the forces of to-morrow.

Science is becoming increasingly concerned with the fact that as it probes on and on till it has gone very far beyond the behavior-realm of moderate-sized isolated artifacts (e.g.sliding blocks of wood on laboratory tables) the behavior observed at last becomes what used to be called illogical. The psychical researchers no longer have a monopoly on phenomena that violate supposed "laws of reason and nature" (for which read linguistic patterns of European tongues). The physicists go them one better with the velocity of light behaving as a velocity should not, and quantum phenomena even more illogically. Thus, when a wave of red light kicks off from a distant nebula and spreading in all directions at last encounters an eye on earth, it delivers to that eye the same amount of energy that kicked it off, although it has a million years ago scattered that original energy over half the stellar universe! Here is a situation that apparently violates the law of conservation of energy, just as that principle may seem threatened in an ESP test that does not fall off with distance in accord with the inverse square law, or in telekinesis phenomena where there is no apparent source for the energy that moves the objects.

It seems to be largely the type of grammar in our languages, worked up into logic by Aristotle and his school, that makes it compulsive for us to think of energy as transmitted from "source" to "receiver", and to shrink from the idea that what is transmitted may be a trigger-effect, and the energy comes as much or more from the unlocalized limitless sink or reservoir upon which the trigger-effect knocks as it comes from the "source" - although the source did lose an equal amount of energy. The idea that around and below the "skin" of atomic matter lie such vash reservoirs (Reiser's "sub-universe of wave mechanics") is implicit in Reiser's statement that the source of the light-wave in the star and its target in some atom in an eye or elsewhere are participants in a wholeness-situation and should not be separated in thought. "Whether light would radiate out into space if there were no sink to receive it we do not know." Thus these quantum and wave phenomena are reactions of the whole universe like one vast organism.

Such discovery of situations which betray the characters of whole organisms leads to an "organismic thinking" that reveals new-laws of thought and of nature, clears up what before was inexplicable, and provides the necessary intellectual tool for future science in its onward march into the unknown. Reiser shows that this trend must be away from what used to pass as hard-boiled "straight tninking", which turns out to be crooked thinking based on the same limited semantics as was worked up and almost deified by Aristotle's sycophantic followers. The new science leads towards systems of non-Aristotelian logic such as have been advocated by Korzybski, C. I. Lewis, Bertrand Russel, E. T. Bell and others (notably P.D.Ouspensky, not mentioned by Reiser, who outlined brilliantly the characteristics of such logic as early as 1918).

DR. REISER'S HUMANISM A Review by B.L.Whorf

An important and highly significant book! It is a recognition by a scientific thinker and modern philosopher of the need for a new cosmic vista in science and philosophy, and a bold and logical attempt to formulate such an outlook. This outlook provides place in its cosmic scheme for such things as extra-sensory perception, for the union of high-grade feeling (that which in a low grade is called emotion) with intellection (union of heart with brain), for mystical and intuitive insight, for a non-static, creative universe and a super-physical that is not a supernatural - all of these reconciled and wedded to science in a way that does no violence to clear thinking. For in showing that super-material terrains exist and must be included in the scientific picture under new principles of reasoning, there is no letting down the bars to fantasy. On the contrary, a cool clear light, as of some strange higher sophistication, shines through many of these pages in a manner seldon encountered. This writer has vision! The book is most significant as a foretaste of things to come; I should not regard it as a finished system of thought, but as a catalyzer of the forces of to-morrow.

Science is becoming increasingly concerned with the fact that as it probes on and on till it has gone very far beyond the behavior-realm of moderate-sized isolated artifacts (e.g.sliding blocks of wood on laboratory tables) the behavior observed at last becomes what used to be called illogical. The psychical researchers no longer have a monopoly on phenomena that violate supposed "laws of reason and nature" (for which read linguistic patterns of European tongues). The physicists go them one better with the velocity of light behaving as a velocity should not, and quantum phenomena even more illogically. Thus, when a wave of red light kicks off from a distant nebula and spreading in all directions at last encounters an eye on earth, it delivers to that eye the same amount of energy that kicked it off, although it has a million years ago scattered that original energy over half the stellar universe! Here is a situation that apparently violates the law of conservation of energy, just as that principle may seem threatened in an ESP test that does not fall off with distance in accord with the inverse square law, or in telekinesis phenomena where there is no apparent source for the energy that moves the objects.

It seems to be largely the type of grammar in our languages, worked up into logic by Aristotle and his school, that makes it compulsive for us to think of energy as transmitted from "source" to "receiver", and to shrink from the idea that what is transmitted may be a trigger-effect, and the energy comes as much or more from the unlocalized limitless sink or reservoir upon which the trigger-effect knocks as it comes from the "source" - although the source did lose an equal amount of energy. The idea that around and below the "skin" of atomic matter lie such vash reservoirs (Reiser's "sub-universe of wave mechanics") is implicit in Reiser's statement that the source of the light-wave in the star and its target in some atom in an eye or elsewhere are participants in a wholeness-situation and should not be separated in thought. "Whether light would radiate out into space if there were no sink to receive it we do not know." Thus these quantum and wave phenomena are reactions of the whole universe like one vast organism.

Such discovery of situations which betray the characters of whole organisms leads to an "organismic thinking" that reveals new-laws of thought and of nature, clears up what before was inexplicable, and provides the necessary intellectual tool for future science in its onward march into the unknown. Reiser shows that this trend must be away from what used to pass as hard-boiled "straight thinking", which turns out to be crooked thinking based on the same limited semantics as was worked up and almost deified by Aristotle's sycophantic followers. The new science leads towards systems of non-Aristotelian logic such as have been advocated by Korzybski, C. I. Lewis, Bertrand Russel, E. T. Bell and others (notably P.D.Ouspensky, not mentioned by Reiser, who outlined brilliantly the characteristics of such logic as early as 1918).

Reiser starts with the obvious need for a new system of thought evident in our chaotic world, in which it is clear that the disturbing factor is Western culture, with its lack of a developed wisdom about Man to offset the great outbelching of material powers from its science and technology. He traces the historical development of Western logic, shows that at a certain point in the history of Western culture it "got off on the wrong foot" and elevated the grammar of Western Aryan languages into Laws of Reason (a point independently developed from linguistic evidence by B. L. Whorf in Technology Review for April, 1940). All went swimmingly for centuries; but then after this semantics, winning out over counter-tendencies, had led to an over-evaluation of material success, its premises were found shaky even for the physical science which was supposed to be "glorified common sense" (i.e. glorified logic of Aristotle).

Reiser shows that the new system of thought must depart from Aristotelian logic even though at first this might appear to defy certain beliefs of "common sense". But, as Korzybski contended in "Science and Sanity", in the long run the new thinking makes better sense than the old. Reiser traces this "organismic" thinking through many fields and argues that it solves their dilemmas; he traces it through modern physics, relativity, quantum theory, biology, evolution, the riddles of space, time, and consciousness, modern psychology, ESP, the social state of man, and "what is coming?"

He shows that just as Aristotelian thinking leads to an over-assertion of separateness, egotism in man and nationalism in world affairs; so this next stage of thought, dwelling on wholes rather than parts, leads away from nationalism and from arrogant Pan-Westernism toward brotherhood of men in the whole which is Man. This is what Reiser calls "global thinking" - Man as the evolving spirit of a planetary globe. For Reiser as for Nietsche, Man is important not as a goal but as a bridge - a bridge to the superman. But this superman is not the being imagined by Nietsche. He is a being who through evolution has mounted to a higher level and quitted the lower, who possesses naturally powers now held supernormal, faculties which have been slow by emerging for thousands of years and are observable, though still in their infant stage, to-day.

Extra-sensory perception is one of these emergent powers, and Reiser shows how organismic thinking can account for this type of phenomena as well as for other puzzles of science. Hence J. B. Rhine hails him as the first philosopher of ESP. Reiser also tries to account for the resistance of scientific men by and large to acceptance of ESP in spite of the conclusive consistency of the results and the carefully-checked mathematical proof which builds up astronomical figures against chance. This rather ostrich-like attitude is seen as a matter not of science but of semantics. In the semantics of our current culture ESP can't be fitted in; hence it defies the mores, entails social disapproval in certain circles, and sometimes endangers private worlds. But a new semantic orientation would destroy the last vestiges of such resistance.

What sticks in the crop of some is that ESP results do not fall off with distance in accord with the inverse square law. But, as we have already seen, neither does the energy of ordinary light fall off with distance if we consider individual quanta and not statistical averages. We assume too readily that these delicate perceptions of a living, feeling thing are quite like the gross statistical averages of macroscopic physics. Possibly only one "quantum" of ESP need be received for complete success as opposed to complete failure. Again, while the primary signal received on a radio falls off with distance, the actual music heard does not diminish by the inverse square law, because the conscious listener steps up the amplification. The energy of the music really comes via him, the "sink", i.e. from his household with

its power wiring, not from the "source". Then too, the vogue of radio has overstressed it as an analogy for ESP; the better analogy might be with not wireless but wired telegraphy. Two people en rapport are usually needed for telepathy, and there may be some line or tube of force constantly connecting them.

Such analogies attempt merely to suggest by homely illustrations that sender and receiver are participants in a wholeness-situation; and that within such organized wholes communication is rather circuit-like than radiation-like. The author quotes Emerson's "Line in nature is not found; unit and universe are round. In vain produced, all rays return;....." Man, he thinks, may at last evolve into one great planetary Being. Perhaps ESP is the beginning of circulatory processes in the embryo of such a Being.

THE PROMISE OF SCIENTIFIC HUMANISM: Toward a unification of Scientific, Religious, Social and Economic Thought. By Oliver L. Reiser (Assoc. Professor of Philosophy, University of Pittsburgh. Oskar Piest, New York, 1940, pp. 341 plus intro. and index, 5 tables.

* * *

Reference is made to the storm roused by Professor Mortimer J. Adler's charge that American university teaching is weakened by an excess of positivism in the Christian Century (Dec. 18, 1940), Mr. Adler himself spoke of the failure of President Hutchins "in the attempt to reform education by appealing to truths the professors ignored or denied. Since the professors cannot conceive themselves as being taught, certainly not by anyone without a Ph. D., in their field, a man who tries to argue with the plain intention of winning agreement must really be trying to impose his doctrine." The Christian Century writes editorially: "Mr. Adler is spoiling a good case by his truculence; but apart from his abuse was his assertion that the professors were guilty of positivism. He did not define this term but no doubt it was his intention to use it in the sense with which its inventor August Comte invested it. In this sense positive knowledge is the kind of knowledge which science yields, a knowledge of facts and processes, as contrasted with the kind of knowledge claimed by philosophy or theology, which is either superstition or vain speculation. For Comte, this positive knowledge of science completely superseded metaphysics and theology, rendering them obsolete and irrelevant. That Mr. Adler's charge is pertinent and justifiable as a characterisation of the most influential mentality of our time, is borne out by the published replies to his speech. The six professors were put on the defensive by Mr. Adler. The fact that they had to occupy themselves chiefly in protesting against the egocentric swagger and exhibitionism of their bumptious colleague does not obscure the more important fact that they accept essentially the position in which he put them."

* * *

Dr. Ralph Barton Perry, professor of philosophy at Harvard, coined a good phrase for the valuable meeting at Hartford Dec. 14th, 1940, devoted to Language and Democracy: "Misuse of the art of communication is the art of demagoguery." We all are very concerned over the kind of writing we find in the commercialized newspaper and magazine. Smearing in the press is one of the high crimes of the times, trick sentences in advertising is another---those words which in a court of law are harmless, but which trade on the ignorance of the public about language and convey by association an entirely false meaning to the innocent reader. The use of frightening words is another: subversive, for instance, to cover all cases of people who realize that great economic changes are inevitable and want to consider them calmly in advance. The Conference under notice discussed the dual function for emotion and reason in language. "Political action," said Dr. Perry,".....requires passion; men must care about it, if they are to do anything about it." He discussed also words like American (more often un-American, namely, everything the speaker is afraid of!), free justice, pacifism.

The war has sharply accelerated concern about diet in England. In April 1939 (Supplement Br. Med. Jour.) the Medical and Panel Committee published a significant manifesto, "Medical Testament on Nutrition and Its Relation to Agriculture", based on the opinion of 600 doctors. We quote the digest by J. B. Paton, Biol.Abs.14461: After 25 years of service under the National Insurance Act designed for "the Prevention and Cure of Sickness" these physicians feel that nothing has been done for the prevention of illness though much has been done for the cure. Half their work is wasted since a large proportion of illness is due to a lifetime of wrong nutrition. Food is the foundation of health; it must be fresh from its source, little altered by preparation and complete. The natural cycle from animal and vegetable waste through soil and plant to animal and man must be complete without the intervention of a chemical or a substitute stage. The testament is a plea for the restoration and maintenance of exhausted soil and the return to natural foods which can insure better nutrition.

The British medical Journal also publishes an abridgement of addresses by J. C. DRUMMOND, on Food in relation to health in Great Britain. The historical background. Brit. Med. Jour. 1940 (4144): 941-943. 1940. Abridgement of one of a series of lectures to be published in extenso by G. Bell & Sons, Ltd., Portugal St., London, W.C.2. J. B. Paton (Biol. Abs. 14464) describes this as a survey of some of the significant changes in the English diet during the past 200 years, and a plea for the insurance of a basic intake of protective foods for the population and widespread education as to how to use them to the best advantage.

Nature (23/11/40) contains a discussion by Professor C. A. Elvehjem at the Bicentennial Conference University of Pennsylvania (17/9/40) as to the readily available sources for vitamins. Beans, oatmeal and peanuts (for thiamin), milk and vegetables (Biboflavin), Yeast and certain vegetables (nicotinic acid), fats high in linoleic acid, and again cereal (for pantlothenic acid) are prominent on the useful list. A steadily increasing emphasis upon vegetables has been brought about by the discovery of the vitamins. C. A. Kofoid notices in Biol.Abs.14473 a new book published by John Lane in London, Everyday Fare for Fitness, By S. B. Whitehead: "The author is a proponent of meatless fare. Part I deals with the choice of foods for fitness; the essentials in diet; cooking for health; balanced meals for the manual worker, brain worker, nerve type; the adjustment of food to age; and the control of wt. Part II contains recipes."

According to Dr. Norman Joliffe, of the Bellevue Hospital, New York (we quote David Dietz, Scripps-Howard science editor), "The vitmin B complex, consists of more than a dozen components. Five of them are now available in crystalline form for therapeutic use by the medical profession. These five are vitamin B1 or thiamin chloride, vitamin B2 or riboflavin, the pellagra-preventive factor or nicotinic acid, vitamin B6 or pyridoxine, and the filtrate factor or pantothenic acid. A deficiency of one component of the B complex is likely to be accompanied by a shortage of one or more factors. And even when the others are all present in the diet the lack of one is likely to upset the functioning of the digestive system in such a way that the others are not properly absorbed. This may apply to vitamins A, C. or D. as well as to the B complex."

"Dental caries, stomatitis, granulomas, dental cysts, etc., are merely manifestations of the body's weakened power of resistance and in the considered opinion of so eminent an authority as McDonagh are secondary to an intestinal toxaemia. It is interesting to note that concerning the latter statement the present writer has found that those of his patients who are vegetarians, and consequently stand far less risk of intestinal toxaemia than meat-eaters, show a remarkably diminished susceptibility towards dental caries. Primarily, we dentists practise a branch of surgery, but more and more we are finding that medicine, that part of our training so woefully

neglected, intrudes itself upon our daily tasks. Moreover, we now find that medicine and surgery cannot be subjects isolated from agriculture, and these three subjects themselves are absolutely dependent upon a thorough-going idea of chemico-physics." (Dental Caries: Its cause and Prevention, by M. Gerson, L.D.S. Eng., The British Dental Journal, December 16, 1940.)

"WHEAT AND RYE should be baked as whole-grain breads, from the dietetic standpoint. The principal reason is that vitamin B1 is lost in making white flour. This loss alone is a major cause of vitamin B1 deficiency in modern civilized nations. Healthy adults enjoying a normal balanced diet should use whole-grain bread for at least half their bread supply. Children, pregnant women, persons engaged in heavy muscular labor and patients suffering from infectious diseases should use no other than whole-grain bread. Other important dietary factors in whole-grain bread are vitamins A, B2, and E; inorganic compounds supplying calcium, magnesium, phosphorous, manganese and iron; cellulose (for bulk) and certain flavor principles. For maximum preservation of dietary factors, old-style hard flat loaves are superior to modern crust bread with its soft, relatively moist interior. The hard loaves, such as Swedish rye bread, also retain delicate flavor principles better than do the softer breads." (Digest from "Problems of Physiologically Correct Bread Nutrition," by W. Kraft, Schweizerische medizinische Wachenschrift 70, 913, 1940, in, Food Industries, January, 1941.)

THE BACTERICIDAL EFFECT OF SMOKE When it Comes from Incense

"C.C.Twort and A. H. Baker describe in the Lancet (November 9), a series of experiments to test the bactericidal effect of various smokes upon the micro-organisms in the form of atomised saliva. The flora of saliva was found to be remarkably sensitive to smokes obtained in various ways--gear-grease heated on an electric plate, cardboard, cotton-wool, tobacco, oak and yang shavings, and incense--and while tobacco smoke proved a comparatively feeble agent incense was found the most effective. The interest of the work lies in the possibility of preventing air-borne respiratory infections by the use of smokes instead, for example, of atomised antiseptic solutions. That a medical virtue should have been found in the combustion of incense at public gatherings is a curious justification of an old custom." (The British Dental Journal, January 1, 1941).

* * *

"The psychology of fear, and pain, that oft repeated stimulus, are two potent factors with which the operator is in perpetual contact. Mental suggestion, auto-suggestion and psychotherapy, antidotes only yet in their infancy, will one day prove potent factore in progressive medicine. Crile has demonstrated that trauma shock occurs even when the conscious mind is anaesthetised; hence his advocacy of a combination of local and general anaesthesia." (C.W.Nicholas. L.D.S.Glas," in The British Dental Journal, November 15, 1940).

* * *

In a paper published in the Edinburgh Medical Journal, October, 1940, D. B. Dott describes experiments which where conducted because of the increased use of asperin as a mouthwash. The experiments showed that calcium is abstracted from the teeth by 5 grains of asperin in 1 oz. of water over a period of five minutes.

* * *

"It was not precisely that everything here was owned in common, for it was not; it was better than that. It was, if I may say so, Christian. Each member of the community was concerned to see that all others were provided for; and if there was a feast, and one member was not present, he was sent for, or his share was put aside for him." (From a book on the Eskimo, Kabloona, by Gontran de Poncins in collaboration with Lewis Galantiere. Illustrated by the author. 339 pages. Reynal & Hitchcock. $3.)

* * *

Ultima Thule, V. Stefansson. Illustrated. 383 pp. $3.50. November, 1940, Macmillan. The author explores some of the problems of the North which have challenged laymen and scientists alike. The volume is replete with his own experiences in the far north and his knowledge of the history of geographic discovery.

* * *

"The book before us stands out among several recent general treatments of the Indians of this hemisphere."..... "Few mature scholars who read this book will fail to rise to occasional flashes of Wisslerian insight which illumine its pages and observation which come only from a mind that has long ago learned to interpret new evidence in terms of what ethnological research has established."..... "The approach to tribal history by grouping tribes into linguistic families is novel." (From a review by W. N. Fenton, in A. Historial Review, Jan. 1941, of Indians of the United States: Four Centuries of Their History and Culture. By Clark Wissler, (The American Museum of Natural History Science Series) New York, Doubleday, Doran and Company. 1940. pp XVI, 319, $3.75)

* * *

In the summer, 1940 number of Indians at Work, the author of a treatise on the Peyote Cult, Dr. Vincenzo Petrillo, discusses this new religious movement among all Indians, based on community eating of the peyote root, and singing of the appropriate songs (highly hypnotic in themselves), and the mystic experiences which are sought. He makes it clear that this is no drug-taking process, even though the peyote plant has psychological effects. The Indian is seeking the source of his own inward being.